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REMARKS

The drawings are objected to. Corresponding formal drawings were previously submitted.

Rejection of claims 1,7,21,25,39-41, and 43 Re: Williams

Claims 1, 7, 21, 25, 39-41, and 43 are rejected under 35 U.S.C. §102(e) as anticipated by Williams, U.S. Patent 5,880,864. Claim 1 (and similarly claims 21 and 39) recite one or more service nodes wherein each service node provides data to a plurality of customer premises, and a dynamic bandwidth allocation module for allocating the bandwidth of the system between the one or more different customer service providers according to usage information from the one or more service nodes. The bandwidth assigned to each customer service provider for each service node is dynamically adjustable based at least in part on the usage of the services by the customers and the bandwidth requests of each service provider (see claim 1).

Williams does not teach the use of service nodes servicing a plurality of customer premises. Instead Williams teaches that the distribution head (MAC 105) communicates with customer premise equipment 101, directly via 104 and/or through passive optical splitters.

“A similar media access controller 105 on the network side preferably connects to a plurality of fiber optic transmission paths, 104 to 104.sub.N, each one of which is connected to any number of different customer premises, 1 to M. In an embodiment having multiple customer premises locations, passive optical splitters and couplers (not shown) are preferably used to optically distribute all of the signals on a single fiber optic transmission path. Each fiber optic transmission path 104 to 104.sub.N, is preferably full duplex with two logical paths” (see Williams Column 6, lines 42-51).

Williams teaches bandwidth allocation between the MAC 102 of the customer

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premise equipment 101 and the distribution head MAC 105. In contrast, claims 1, 21, and 39 recite bandwidth allocation between service providers and service nodes. Service nodes are not taught by Williams. Williams does not teach 1) the use of service nodes (nodes servicing multiple customer premise equipment), or 2) allocating bandwidth between service providers and service nodes. Instead Williams teaches bandwidth allocations between individual customer service equipment 101 and the head-end MAC 105. Note that the service node of the present claims is much more functional than the passive optical splitters mentioned in Williams:

"The service node 20 may receive a multiplex of signals from the system 10 and then distribute the services to each household. The service node may also generate information about subscriber behavior, such as real-time channel tuning information, that may be used by the bandwidth allocation and multiplexing system to allocate bandwidth among the Customer Services." (see specification of present application, page 7, lines 8-11)

In conclusion, the present claims recite:

1. Use of service nodes to collect service usage information from a plurality of customer premises and to provide the usage information to a bandwidth allocator.
2. Communicating bandwidth allocations to customer service providers, the allocations based at least in part upon the usage information from the service nodes.

Williams describes a different system wherein:

1. There is no use of service nodes.
2. Bandwidth allocations are determined by communication between the customer premise equipment and a MAC (multiple distribution point head-end); bandwidth allocations are not communicated to the customer service providers.

For at least these reasons the rejection of claims 1, 21, and 39 (and dependents thereof) should be withdrawn.

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Rejection of claims 7, 25, and 43 Re: Williams

NOTE: The Office Action rejects claim 25 along with claim 21, however, claim 25 is similar to claim 7. Likewise, the Office Action rejects claim 43 along with claim 41, however, claim 43 is similar to claim 7. Thus, the rejection of claims 25 and 43 is discussed in conjunction with claim 7.

Citing column 6, lines 64-67 and column 7, lines 1-8, claims 7, 25, and 43 are rejected under 35 U.S.C. §102(e) as anticipated by Williams, U.S. Patent 5,880,864. However, at column 6, lines 64-67 and column 7, lines 1-8 Williams makes no mention at all of permanent, period of time, or as available bandwidth allocation. For at least this reason the rejection of claims 7, 25, and 43 should be withdrawn.

Rejection of claims 3 and 40 Re: Williams

NOTE: Although not cited in the Office Action, claim 3 is similar to claim 40. Thus, claim 3 is discussed in conjunction with the rejection of claim 40.

Citing Williams column 5, lines 48-53, claims 3 and 40 are rejected under 35 U.S.C. §102(e) as anticipated by Williams, U.S. Patent 5,880,864. These claims recite that the customer services comprise one or more of video on demand, IP data and broadcast data (see claims 3 and 40).

However, at column 5, lines 48-53, Williams makes no mention at all of video on demand, IP data and broadcast data.

"The network has media access control functionality and utilizes a dynamic media access control procedure. Bandwidth on the optical fiber loop is dynamically allocated to individual services on demand. The optical fiber(s) can carry three different wavelengths, and allocation of bandwidth can include wavelength selection as well as bit rate

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allocation.”(see Williams column 5, lines 48-53)

For at least these reasons, the rejection of claims 3 and 40 should be withdrawn.

Rejection of claims 5, 23, and 41 Re: Williams

NOTE: Claims 5 and 23 are similar in scope to claim 41. Thus claims 5 and 23 are discussed in conjunction with the rejection of claim 41.

Citing column 5, lines 48-53, column 6, lines 64-67, and column 7, lines 1-8, claims 5, 23, and 41 are rejected under 35 U.S.C. §102(e) as anticipated by Williams, U.S. Patent 5,880,864. Claims 23 and 41 recite that the bandwidth manager further comprises a decision tree having one or more rules for determining the allocation of the bandwidth for each service node. (see claims 5, 23, and 41).

However, at column 5, lines 48-53, column 6, lines 64-67, and column 7, lines 1-8, Williams makes no mention at all of the bandwidth manager comprising a decision tree having one or more rules for determining the allocation of the bandwidth for each service node. The rejection of claims 5, 23, and 41 should thus be withdrawn.

Rejection of claims 2-6,8,22-24,26,42, and 44 Re: Williams and Kinrot

Claims 2-6,8,22-24,26,42, and 44 are rejected under 35 U.S.C. §103(a) as obvious in light of Williams, U.S. Patent 5,880,864 in combination with Kinrot, U.S. Patent 6,574,193.

As noted above, Williams fails to teach significant limitations of the independent claims. The Office Action does not assert that Kinrot supplies the limitations that I assert are lacking in Williams. It is therefore unnecessary at this time to traverse the 103(a) rejection of the dependent claims. However, for the record I believe that Kinrot fails to teach limitations of the dependent claims as well.

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Rejection of claims 12-15, 30-33, and 48-51 Re: Williams and Enns et al

Claims 12-15, 30-33, and 48-51 are rejected under 35 U.S.C. §103(a) as obvious in light of Williams, U.S. Patent 5,880,864 in combination with Enns et al, U.S. Patent 6,658,010.

As noted above, Williams fails to teach significant limitations of the independent claims. The Office Action does not assert that Enns supplies the limitations that I assert are lacking in Williams. It is therefore unnecessary at this time to traverse the 103(a) rejection of the dependent claims. However, for the record I believe that Enns fails to teach limitations of the dependent claims as well.

Conclusion

For at least the reasons cited above, the all claims should be allowed over the cited prior art.

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